

CIRCUIT DESIGN METHOD, APPARATUS, AND PROGRAM

ABSTRACT OF THE DISCLOSURE

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A circuit design method able to design a processing circuit for processing a finite field with fewer circuit design elements and in a smaller size than the past comprising obtaining a first primitive root α_1 on the 10 basis of a first polynomial for a first extension from a first finite field to a second finite field, obtaining a second primitive root α_2 on the basis of a second polynomial for a second extension from the second finite field to a third finite field, wherein a coefficient of a 15 0-th term is defined using the first primitive root α_1 obtained above and the coefficient of the 0-th term of the first polynomial, defining processing on the third finite field using a base expressed using the second primitive root α_2 , and designing the processing circuit 20 for performing that processing.